2009 H1N1 Influenza
Updated Key Points
December 18, 2009

What's New and Updated

- Activity Update
- International Situation Update
- 2009 H1N1 Influenza Vaccine
- 2009 H1N1 Influenza Vaccine Safety
- Seasonal Influenza Vaccine

A Summary of CDC Key Public Health Messages this Season

- Flu activity continued to decline in the United States during the week of December 6-12, 2009, as reported in FluView. The number of states reporting widespread flu activity decreased from 14 to 11. Visits to doctors for influenza-like illness, flu-associated hospitalizations, and flu-associated deaths all declined from the previous week, but remain elevated for this time of year.

- Influenza is unpredictable—flu activity may continue for several weeks and it's possible that other waves of influenza may occur caused by either 2009 H1N1 viruses or regular seasonal flu viruses.

- CDC recommends a three-step approach to fighting the flu:

    - vaccination;

    - everyday preventive actions, including covering coughs and sneezes, frequent hand washing, and staying home when sick;

    - and the correct use of antiviral drugs if your doctor recommends them.

- There is no way to accurately predict the course of influenza epidemics. Right now is a window of opportunity for more people to get vaccinated for 2009 H1N1 flu, to provide protection against a possible third wave of disease as more people gain immunity to the 2009 H1N1 virus. Those who have been patiently waiting for their turn to receive the 2009 H1N1 vaccine are now encouraged to get vaccinated.

- It's very important that antiviral drugs be used early to treat flu in people who are very sick (for example people who are in the hospital) and people who are sick with flu and have a greater chance of getting serious flu complications, like people with asthma, diabetes or people who are pregnant.

Activity Update

- Each week CDC analyzes information about influenza disease activity in the United States and publishes findings of key flu indicators in a report called FluView.

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- Information collected during the week of December 6-12, 2009, is being reported in FluView on December 18, 2009.
- Below is a summary of the most recent key indicators:
- Visits to doctors for influenza-like illness (ILI) nationally decreased slightly this week over last week. This is the seventh consecutive week of national decreases in ILI after four consecutive weeks of sharp increases. While ILI has declined, visits to doctors for influenza-like illness remain slightly elevated nationally.
- Influenza hospitalizations and hospitalization rates decreased in all age groups.
- The proportion of deaths attributed to pneumonia and influenza (P&I) based on the 122 Cities Report decreased over the previous week, but remains elevated for this time of year. This proportion has been higher than expected for eleven consecutive weeks.
- In addition, 9 flu-related pediatric deaths were reported this week: 8 of these deaths were associated with laboratory confirmed 2009 H1N1, and one was associated with an influenza A virus that was not subtyped.
- Since April 2009, CDC has received reports of 276 laboratory-confirmed pediatric deaths: 232 due to 2009 H1N1, 42 pediatric deaths that were laboratory confirmed as influenza, but the flu virus subtype was not determined, and two pediatric deaths that were associated with seasonal influenza viruses. Laboratory-confirmed deaths are thought to represent an undercount of the actual number. CDC has provided estimates about the number of 2009 H1N1 cases and related hospitalizations and deaths
- A table showing reports of flu-related pediatric deaths (including a cumulative total of 2009 H1N1 pediatric deaths since April, 2009) is available on the CDC website at http://www.cdc.gov/h1n1flu/updates/us/#pedh1n1cases .
- Since CDC began tracking pediatric flu-related deaths in 2003-2004, the number of pediatric deaths reported to CDC has ranged from 46 during the 2005-2006 season to the 212 deaths reported so far during the 2009-2010 season.
- Eleven states are reporting widespread influenza activity; a decline of three states from last week. They are: Alabama, Alaska, California, Delaware, Kentucky, Maine, New Hampshire, New Jersey, Nevada, New York, and Virginia
- Almost all of the influenza viruses identified so far continue to be 2009 H1N1 influenza A viruses.

- These viruses remain similar to the virus chosen for the 2009 H1N1 vaccine, and remain susceptible to the antiviral drugs oseltamivir and zanamivir with rare exception.
    - This week CDC has reported a cumulative 44 cases of oseltamivir resistant 2009 H1N1 viruses in the United States, an increase of 15 over the previous week.
    - This increase is likely the result of enhanced surveillance of antiviral resistance, an increased availability of testing performed at CDC, and an increasing number of public health and other clinical laboratories performing antiviral resistance testing.

International Situation Update

- The 2009 H1N1 influenza virus is the predominant influenza virus in circulation worldwide.
- In temperate regions of the Southern Hemisphere, sporadic cases of 2009 H1N1 have been reported in recent weeks but no sustained transmission has been observed.
    - The epidemiology and severity of disease caused by 2009 H1N1 influenza in the Southern Hemisphere during its winter months in 2009 was very similar to what was described in the United States in the spring of 2009.
- In tropical regions of the Americas and Asia, influenza activity due to 2009 H1N1 remains variable.
- In temperate regions of the Northern Hemisphere, influenza-like illness (ILI) activity due to 2009 H1N1 has passed its highest peak in North America and in parts of Western and Northern Europe, but activity continues to increase in parts of Central and Southeastern Europe, as well as in Central and South Asia.
- According to the World Health Organization (WHO), the majority of 2009 H1N1 influenza isolates tested worldwide remain sensitive to oseltamivir, an antiviral medicine used to treat influenza disease. Worldwide, 136 2009 H1N1 isolates tested have been found to be resistant to oseltamivir – 44 of these isolates were detected in the United States.
- The World Health Organization (WHO) continues to report updated 2009 H1N1 flu-associated laboratory-confirmed cases and deaths on its Web page (http://www.who.int/csr/disease/swineflu/updates/en/). These laboratory-confirmed cases represent a substantial underestimation of total cases in the world, as many countries focus surveillance and laboratory testing only on people with severe illness.

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- For the most recent period in which data are available (November 15 to December 5, 2009) 92.2% of influenza specimens reported to WHO were 2009 H1N1, 1% were seasonal A (H1), 0.9% were A (H3), 5.2% were influenza A viruses that were not subtyped, and 0.8% were influenza B viruses.
- On September 17, 2009, several countries including the United States announced plans to donate 2009 H1N1 vaccine or funds to support vaccination campaigns in less developed countries

2009 H1N1 Influenza Vaccine

In this Section:

- Announcements
- Supply
- Recommendations
- Flu Activity Occurs in Waves

Announcements

- **(New)** As part of its quality assurance program, the manufacturer, Sanofi Pasteur, performs routine, ongoing stability testing of its 2009 influenza A (H1N1) vaccine after the vaccine has been shipped to providers. Stability testing means measuring the strength (also called potency) of a vaccine over time. It is performed because sometimes the strength of a vaccine can be reduced over time. On December 7, Sanofi Pasteur notified CDC and FDA that the potency in one batch (called a "lot") of vaccine in pre-filled pediatric syringes that had been distributed was later found to have dropped below a pre-specified limit. As a result of this finding, Sanofi Pasteur tested additional lots and found that three other lots that had been distributed also had an antigen content that, while filled at the proper level at the time of manufacturing, was later measured to be below pre-specified limits. This means that doses from these four vaccine lots no longer meet the manufacturer's specifications for potency. Sanofi Pasteur will send providers directions for returning any unused vaccine from these lots.

- **(New)** The vaccine for 2009 H1N1 flu will be the same for the entire 2009-2010 influenza season, which extends into the spring of 2010. The "2009" in the name only relates to the year the virus was first identified; it does not have to do with how long the vaccine will work or the year in which it should be administered. The 2009 H1N1 strain is not included in the 2009-2010 seasonal flu vaccine because it was identified after manufacturers had started making the seasonal flu vaccine.

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- **(New)** This week will mark the first 100 million doses of 2009 H1N1 vaccine available for ordering.

- National Influenza Vaccination Week (NIVW) is a national initiative that was established to highlight the importance of continuing influenza vaccination, as well as to foster greater use of flu vaccine after the holiday season into January and beyond. This year's NIVW, originally scheduled for December 6-12, 2009, is now rescheduled to January 10-16, 2010. Updates will be provided as more information becomes available.

- We hope that all of our partners will plan their own NIVW events and share their plans with us at www.flu.gov and http://www.cdc.gov/flu/NIVW/form.htm.

Supply

- **(Updated)** As of Friday, December 18, 2009, a total of 100,082,700 doses were available for ordering. Of those available doses, 78,496,200 doses were injectable (flu shots) and 21,586,500 were LAIV (nasal spray vaccine).

- **(Updated)** As of Thursday, December 17, 2009, there were a total of 89,187,200 doses ordered.

- **(New)** There is no way to accurately predict the course of influenza epidemics. Right now is a window of opportunity for more people to get vaccinated for 2009 H1N1flu, to provide protection against a possible third wave of disease as more people gain immunity to the 2009 H1N1 virus. Those who have been patiently waiting for their turn to receive the 2009 H1N1 vaccine are now encouraged to get vaccinated.

- The further delivery of Sanofi Pasteur 7.5 microgram prefilled syringes is delayed indefinitely due to release issues at the manufacturer.

- Supplies of 2009 H1N1 vaccine continue to increase. More doses are expected for shipment each week. We ask members of the public who want to receive this vaccine to be patient as this program expands and more vaccine continues to become available.

Recommendations

- Parents are now encouraged to seek the second dose of 2009 H1N1 vaccine for their children who are younger than 10 years old. The recommended interval between the first and second dose should be at least 28 days; however, a second dose given at least 21 days after the first is considered valid.

Flu Activity May Occur in "Waves"

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- The timing, spread and severity of influenza viruses is uncertain.
- Outbreaks of influenza may occur in different places at different times.
- Outbreaks may occur in waves of about 6-12 week time periods.
- These waves of influenza may occur over a year or so after the emergence of a new influenza virus.
- In past pandemics, "waves" of activity have been observed.
- The first wave is usually a smaller wave; followed by a larger "peak" wave. Subsequent smaller waves can occur as well.
- The United States experienced its first wave of 2009 H1N1 pandemic activity in the spring of 2009.
- At this time, we are experiencing a second wave of 2009 H1N1 activity.
- It's possible that other waves of influenza activity may occur after this current wave – caused by either 2009 H1N1 viruses or regular seasonal flu viruses.
- Because the timing and spread of influenza viruses are unpredictable, CDC is continuing to recommend vaccination with seasonal influenza vaccine and 2009 H1N1 vaccine for those people in whom it is recommended.

2009 H1N1 Influenza Vaccine Safety

- All data coming into CDC's vaccine safety surveillance systems continue to confirm that the 2009 H1N1 vaccine is safe.
- At the same time, CDC, FDA, and our partners, continue to rigorously monitor the safety of H1N1 and seasonal flu vaccines.
- **(New)** CDC is aware that pregnant women and parents of young children may have questions about the safety of thimerosal in the multi-dose vials of H1N1 influenza vaccine.
- **(New)** Thimerosal is a mercury-containing preservative that is added to vials of vaccine that contain more than one dose to prevent contamination and growth of potentially harmful bacteria. Such contamination can cause serious local reactions, illness or death. Thimerosal also increases the length of time a vaccine can remain entirely effective, or potent, before it reaches the patient—the time between manufacturing, shipping, and administering.
- **(New)** Getting the vaccine is much safer than getting H1N1 influenza. Severe illness and possible death can be associated with influenza, and

vaccination is the best way to prevent influenza infection and its complications.

- **(New)** Currently, the following priority groups have been experiencing higher than usual rates of complications from 2009 H1N1 influenza:
    - Healthy young people from birth through age 24
    - Pregnant women
    - Adults 25 to 64 who have underlying medical conditions
- **(New)** As with seasonal influenza vaccination, some people getting H1N1 vaccine will have mild side effects such as local injection site pain, redness or swelling in the arm where the shot was given or a runny nose and headache after the nasal spray vaccine.
- **(New)** Some parents may have questions about the use of thimerosal as a preservative. Research shows no link between thimerosal in vaccines and autism, a neurodevelopmental disorder
- **(New)** Some priority groups may not be able to find thimerosal-free H1N1 flu vaccine due to a recent recall of pre-filled, single-dose syringes by Sanofi Pasteur: http://www.cdc.gov/h1n1flu/vaccination/syringes_qa.htm.
- **(New)** Getting the vaccine is much safer than getting H1N1 influenza. For more information on the H1N1 influenza nasal spray vaccine, see http://www.cdc.gov/vaccines/pubs/vis/downloads/vis-laiv-h1n1.pdf. For more information on the H1N1 influenza shot, see http://www.cdc.gov/vaccines/pubs/vis/downloads/vis-inact-h1n1.pdf.

In this Section:

Seasonal Influenza Vaccine

- Two systems that look at seasonal influenza vaccinations administered and billed show that more individuals have been vaccinated with seasonal vaccine this season than at the same time last year. This is most likely due to the early availability of vaccine and public interest in getting vaccinated.
- Due to early availability and high demand of seasonal flu vaccine, limited amounts of seasonal supply remain. At this point, CDC continues to encourage those at highest risk from flu complications to seek seasonal flu vaccine and receive 2009 H1N1 vaccine, as recommended.
- **(New)** As of last week, approximately 110 million doses of vaccine had been distributed (96% of the doses expected this season). Since then, even more doses have been shipped. By now it's likely that the total

estimated amount of 114 million doses of seasonal flu vaccine have been distributed.

- Local areas may not have received as much vaccine as they anticipated at this point in the season and providers seeking additional vaccine now may be unable to purchase it. For more information about seasonal supply, please refer to IVATS (http://www.preventinfluenza.org/ivats/) over the coming weeks.

More information about seasonal flu vaccine supply can be found at:
http://www.cdc.gov/flu/professionals/vaccination/#supply